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## WHAT IS CLAIMED IS:

1. A method of making a flush syringe assembly having anti-reflux features which comprises:

5 providing a plurality of barrels including a cylindrical side wall having an inside surface defining a chamber for retaining fluid, an open proximal end and a distal end including a distal wall with an elongate tip extending distally therefrom having a passageway therethrough in fluid communication with said chamber, said inside surface of said barrel at said distal wall being conically shaped;

10 providing a plurality of stoppers capable of being slidably positioned in fluid-tight engagement with said inside surface of said barrel for drawing fluid into and driving fluid out of said chamber by movement of said stopper relative to said barrel, said stopper having a conically-shaped distal surface;

15 selecting a stopper from said plurality of stoppers and a barrel from said plurality of barrels wherein the total included angle of said inside surface of said selected barrel at said distal wall is greater than the total included angle of said selected stopper distal surface; and

20 inserting said selected stopper into said chamber of said selected barrel so that said distal end of said selected stopper faces said distal wall of said selected barrel.

2. The method of claim 1 further including the steps of:

providing a plunger including an elongate body portion having a proximal end and a distal end; and

25 attaching said distal end of said plunger to said proximal end of said selected stopper.

3. The method of claim 1 further including the step of:

30 providing a tip cap configured for releasable connection to said tip of said selected barrel for sealing said passageway; and

connecting said tip cap to said tip of said selected barrel.

4. The method of claim 1 further including the step of:  
placing a quantity of flush solution in said chamber of said selected barrel.

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5. The method of claim 1 wherein the total included angle of said inside surface of said distal wall of said selected barrel is greater than the total included angle of said stopper distal surface by at least 6°.

- 10 6. A method of making a flush syringe assembly which comprises:

providing a plurality of barrels including a cylindrical side wall having an inside surface defining a chamber for retaining fluid, an open proximal end and a distal end including a distal wall with an elongate tip extending distally therefrom having a passageway therethrough in fluid communication with said chamber, said inside surface of said barrel at said distal wall being conically-shaped;

providing a plurality of stoppers capable of being slidably positioned in fluid-tight engagement with said inside surface of said barrel for drawing fluid into and driving fluid out of said chamber by movement of said stopper relative to said barrel, said stopper having a conically-shaped distal surface;

20 selecting a stopper from said plurality of stoppers and a barrel from said plurality of barrels wherein the total included angle of said inside surface of said selected barrel at said distal wall is greater than the total included angle of said selected stopper distal surface;

25 providing a tip cap configured for releasable connection to said tip of said selected barrel for sealing said passageway;

connecting said tip cap to said tip of said selected barrel;

placing a quantity of flush solution in said chamber of said selected barrel; and

30 inserting said selected stopper into said chamber of said selected barrel so that said flush solution is contained generally between said distal wall of said selected barrel and said distal end of said selected stopper.

7. A method of claim 6 further including the step of:  
sterilizing said flush syringe assembly.

5 8. The method of claim 6 further including the steps of:  
providing a plunger including an elongate body portion having a proximal end  
and a distal end; and  
attaching said distal end of said plunger to said proximal end of said selected  
stopper.

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9. The method of claim 6 further including the steps of:  
placing said syringe assembly in a protective package; and  
sealing said package.

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